



**Wastewater Design Criteria  
Basis of Design Report (BDR) Submittal Checklist - Wastewater Lift Station Projects**

In accordance with the *Design Criteria for Domestic Wastewater Treatment Works (WPC-DR-1)*, the design review process for lift station projects require a single submittal that includes the BDR and the final design for review and approval by the Division. The purpose of the BDR is to provide sufficient design information so the Division can evaluate whether the proposed lift station design can meet the wastewater conveyance and treatment requirements in the site location approval and WPC-DR-1.

A. Project and System Information									
System Name									
Project Title									
County									
Site Application Number									
Permit Number									
Date Fee Paid or payment attached		Invoice Number and Check Number							
Design Company Name									
Design Engineer		CO License Number							
Address									
Email									
Phone		Fax							
Applicant / Entity									
Representative Name/Title									
Address									
Email									
Phone		Fax							
B. Project Information									
Location (existing or proposed site)				Proposed Project Design Capacity					
Brief location description				Firm Pumping Capacity (capacity with the largest unit out of service)				GPM	
Legal Description (e.g., Township, Range)				Service Area Flow to Lift Station (maximum month average flow)				MGD	
County									
Latitude				Service Area Flow to Lift Station (peak hour flow)				MGD	
Longitude									
Funding Process		Will a State or Federal grant or loan be sought to finance any portion of the project (e.g., State Revolving Fund)?		No	<input type="checkbox"/>	Yes	<input type="checkbox"/>	If yes, please list project number	
Project Schedule and Cost Estimate									
Estimated Bid Opening Date									
Estimated Completion Date									
Estimated Project Cost									

**BDR Required Requirement Elements: Checklist must be filled out**

Design Criteria Citation	Report Requirements	Applicant to fill out	
		Included/Addressed in Submittal? Yes/No	Location in Submittal (section or page)
1.2.2 Design Review Document Submittals			
1.2.2	<b>DORA Compliance:</b> Documents submitted for review shall be prepared under the supervision of and be submitted with the seal and signature of a professional engineer licensed to practice engineering in the State of Colorado.		
1.2.2	<b>Report Copies:</b> One (1) hard copy of all documents (i.e., sealed and signed) and one (1) electronic copy (PDF) submitted. The design submittal must include a completed design submittal form.		
1.2.2	<b>General:</b> The report must demonstrate compliance with these criteria, or justify site-specific deviations from the criteria, and include supporting calculations, analyses, historical data, and technical assumptions.		
1.3.2 Basis of Design Report Elements			
1.3.2(a)	A map showing the tributary area, any municipal boundaries within the tributary area, the location of the lift station and force main and pertinent elevations.		
1.3.2(b)	100-year floodplain elevation map and any wetland areas, if applicable.		
1.3.2(c)	Evaluation that lift station is not unnecessarily endangered by natural hazards, such as a geotechnical report of the site, prepared by a Colorado licensed Geotechnical Engineer or Professional Geologist, if not previously provided with the site location application (e.g., including soils testing results, identification of any geologic hazards, and a statement that the site will support the proposed facility).		
1.3.2(d)	Supporting calculations, analyses, historical data, and technical assumptions for the lift station design.		
1.3.2(e)	Design flow rates as discussed in Chapter 4.		
1.3.2(f)	Wet well configuration and volume.		
1.3.2(g)	Number, type, capacity, motor horsepower and net positive suction head (NPSH) requirements of proposed pumps. The design capacity must match the site location approval.		
1.3.2(h)	A description of motor protection from over-current, over-temperature and voltage imbalance.		
1.3.2(i)	System head curve and computations justifying the selected operating point for design conditions of pumping system, including the anticipated minimum and maximum performance range (e.g., static head and dynamic losses).		
1.3.2(j)	Analysis (including pertinent calculations) of flotation potential and ballasting.		
1.3.2(k)	Description of approach to back-up power sources, alarms, and emergency storage.		
1.3.2(l)	Receiving capacity of downstream facilities (e.g., interceptors, WWTP).		
1.3.2(m)	Design basis for any odor control system including materials and equipment selection (e.g., type, capacity, loading).		
1.3.6 Preliminary Operating Plan			
1.3.6(a)	The expected basic operating configuration and process control procedures and associated staffing requirements for the facilities including anticipated staff needed for operation and maintenance, 24-hour notification, and Operator in Responsible Charge (ORC) certification requirements.		
1.3.6(b)	Residuals management considerations, including the expected solids generation quantities and quality, and a discussion of the method of final sludge disposal, if applicable.		
1.3.6(c)	Phased operation of existing facilities to maintain permit compliance during construction, if applicable.		
1.3.6(d)	Procedures to periodically inspect the outfall diffuser to document its integrity and continued functioning, if applicable.		
1.3.6(e)	Facility upset and/or emergency response preparedness and procedures, including telemetry, backup power supply, portable emergency pumping equipment, emergency storage/overflow protection, and operator emergency response time.		

1.3.6(f)	Safety issues for the wastewater treatment facility and individual components and equipment.		
1.3.6(g)	Facility security provisions.		